

AMENDMENTS TO THE CLAIMS:

Complete Listing of Claims

- 1 1. (currently amended) A graphing calculator having a points of interest
2 user interface comprising:
 - 3 a screen capable of displaying at least straight lines in any direction and a
4 cursor;
 - 5 a key panel having keys at least capable of selecting positions of said
6 cursor and moving said cursor horizontally or vertically on said screen;
 - 7 a processor programmed to provide the for executing programming that
8 provides a points of interest user interface having the following steps:
 - 9 a) providing an input display to allow the user to define a plurality of
10 equations, inequalities and vertical lines,
 - 11 b) providing a points of interest display screen,
 - 12 cb) displaying graphs of graph the defined equations, inequalities and
13 vertical lines on the points of interest display screen,
 - 14 ec) provide a points of interest display screen, and
 - 15 d) d) jumping allow the user to jump the cursor between points of interest,
16 comprising intersection points of the graphs on the points of interest display
17 screen, in response to with a single key command on the points of interest
18 display screen.
- 1 2. (currently amended) The graphing calculator of Claim 1, wherein said
2 processor is further programmed to store the location of the cursor at desired
3 points of interest with a store command that comprises a single key stroke.

1 3. (original) The graphing calculator of Claim 2, wherein said processor is
2 further programmed to allow the user to display the stored points of interest and
3 use the stored points of interest for other calculator functions.

1 4. (original) The graphing calculator of Claim 1, wherein said processor is
2 further programmed to input equations, inequalities and lines using a Y=Editor
3 and an X=Editor.

1 5. (currently amended) The graphing calculator of Claim 1, wherein said
processor is further programmed to provide further comprising an indication on
3 the points of interest display screen of the current coordinates of the cursor.

1 6. (currently amended) The graphing calculator of Claim 1, wherein said
processor is further programmed to provide further comprising an indication on
3 the points of interest display screen of which equation, inequality or vertical lines
4 contributed to the point of interest indicated at the cursor location.

1 7. (currently amended) The graphing calculator of Claim 6, wherein the
2 indication on the points of interest display screen of which function or vertical
3 lines contributed to the point of interest indicated at the cursor location includes
4 an the intersection symbol for equations that include the line and does not use
5 the intersection symbol for strict inequalities.

1 8. (currently amended) A graphing calculator having a points of interest
2 display comprising:
3 a screen capable of displaying at least straight lines in any direction and a
4 cursor;
5 a key panel having keys at least capable of selecting positions of said
6 cursor and moving said cursor horizontally or vertically on said screen;
7 a processor programmed with points of interest programming for
8 ~~executing points of interest programming that instructs said processor to perform~~
9 the following steps:
10 a) providing an input display to allow the user to define equations and
11 vertical lines,
12 b) displaying graphs of graph the defined equations and vertical lines on
13 the points of interest display,
14 c) provide a points of interest display,
15 cd) jumping allow the user to jump the cursor between points of interest
16 comprising intersection points of the graphs on the points of interest display
17 screen, in response to with a single key command which moves the cursor to
18 another point of interest with each key activation, and
19 de) storing allow the user to store the location of the cursor at desired
20 points of interest in response to with a store command.

1 9. (original) The graphing calculator of Claim 8, wherein said processor is
2 further programmed to allow the user to display the stored points of interest and
3 use the stored points of interest for other calculator functions.

1 10. (currently amended) The graphing calculator of Claim 9, wherein said
2 processor is further programmed to provide further comprising an indication on
3 the points of interest display of the current X and Y coordinates of the cursor.

1 11. (currently amended) The graphing calculator of Claim 10, wherein
2 said processor is further programmed to provide further comprising an indication
3 on the points of interest display of which function or vertical lines contributed to a
4 the point of interest indicated at a current the cursor location.

1 12. (currently amended) The graphing calculator of Claim 11, wherein
2 the indication on the display of which function or vertical lines contributed to the
3 point of interest indicated at the cursor location includes an the intersection
4 symbol for equations that include the line and does not use the intersection
5 symbol for strict inequalities.

1 13. (currently amended) The graphing calculator of Claim 8, wherein said
2 processor is further programmed to execute further comprising an algorithm to
3 compute intersection points using a numerical root-finder which uses XMIN and
4 XMAX for a the graph window as the upper and lower bounds on the solution
5 and the initial guess taken as a the current cursor location position.

1 14. (currently amended) The graphing calculator of Claim 8, wherein said
2 processor is further programmed to execute further comprising an algorithm to
3 compute intersection points of linear inequalities to find the points of interest
4 around a the boundary of a solution set to the linear inequalities by iterating a the
5 Simplex algorithm.

1 15. (currently amended) A method for providing a software user interface
2 for a graphing calculator having the following steps:

3 a) providing an input display to allow the user to define a plurality of
4 equations, inequalities and vertical lines,

5 b) providing a points of interest display screen,

6 c) displaying graphs of graph the defined equations, inequalities and
7 vertical lines on the points of interest display screen, and

8 d) provide a points of interest display screen, and

9 e) jumping a allow the user to jump the cursor between points of interest
10 comprising intersection points of the graphs on the points of interest display
11 screen, in response to with a single key command on the points of interest
12 display screen.

1 16. (currently amended) The method user interface of Claim 15, further
2 comprising the step of storing a wherein said processor is further programmed to
3 store the location of the cursor at points of interest in response to desired points
4 with a store command that comprises a single key stroke.

1 17. (currently amended) The method user interface of Claim 16, further
2 comprising the steps of:

3 wherein said processor is further programmed to allow the user to display the
4 stored

5 a) displaying points of interest at the stored locations, and

6 b) using use the stored locations of points of interest for other calculator
7 functions.

1 18. (currently amended) The method user interface of Claim 15, wherein
2 said step of providing an input display further comprises providing an input
3 display processor is further programmed to input equations, inequalities and
4 lines using a Y=Editor and an X=Editor.

1 19. (currently amended) The method user interface of Claim 15, further
2 comprising the step of providing an indication on the points of interest display
3 screen of which functions equation, inequality or vertical lines contributed to a
4 the point of interest indicated at a the cursor location.

1 20. (currently amended) The method user interface of Claim 19, wherein
2 the indication on the points of interest display screen of which function or vertical
3 lines contributed to the point of interest indicated at the cursor location includes
4 an the intersection symbol for equations that include the line and does not
5 include use the intersection symbol for strict inequalities.

1 21. (currently amended) The method user interface of Claim 15 further
2 comprising the step of executing an algorithm to compute intersection points
3 using a numerical root-finder which uses XMIN and XMAX for the graph window
4 as the upper and lower bounds on the solution and an the initial guess taken as
5 the current cursor position.

1 22. (currently amended) The method user interface of Claim 15 further
2 comprising the step of executing an algorithm to compute intersection points of
3 linear inequalities to find the points of interest around a the boundary of a
4 solution set to the linear inequalities by iterating a the Simplex algorithm.